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 WESTERN DISTRICT OF WASHINGTON  
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UNITED STATES DISTRICT COURT  
 WESTERN DISTRICT OF WASHINGTON  
 AT SEATTLE

PROKOP LABS, LLC, a Washington limited  
 liability company,

Plaintiff,

v.

STAPLES, INC., a Delaware corporation;  
 STAPLES THE OFFICE SUPERSTORE,  
 LLC, a Delaware limited liability company;  
 BELKIN, INC., a Delaware corporation;  
 BELKIN LOGISTICS, INC., a Delaware  
 corporation; S.P. RICHARDS CO., a Georgia  
 corporation; and VELO ENTERPRISE CO.,  
 LTD, a Taiwan corporation,

Defendants.

**07-1094P**  
 COMPLAINT FOR PATENT  
 INFRINGEMENT

**JURY DEMAND REQUESTED**



**07-CV-01094-CMP**

Plaintiff Prokop Labs, LLC ("Prokop Labs"), for its complaint against defendants  
 Staples, Inc., Staples the Office Superstore, LLC, Belkin, Inc., Belkin Logistics, Inc., S.P.  
 Richards Co., and Velo Enterprise Co., Ltd. (collectively "defendants"), alleges as follows:

**I. NATURE OF THE ACTION**

1. This is an action for willful patent infringement under the patent laws of the  
 United States. Plaintiff Prokop Labs is the owner of U.S. Patent No. 5,566,913 (the '913  
 patent) entitled "Wrist Rest Apparatus" (attached hereto as Exhibit A). Prokop Labs  
 manufactures and sells wrist rest and mouse pads covered by the '913 patent. David Prokop

COMPLAINT FOR PATENT INFRINGEMENT 1

LANE POWELL PC  
 1420 FIFTH AVENUE, SUITE 4100  
 SEATTLE, WASHINGTON 98101-2338  
 206.223.7000 FAX: 206.223.7107

ORIGINAL

SEALED 0733 JUL 13

1 is the president of Prokop Labs and the inventor of the '913 patent. Each of the named  
2 defendants is making, offering to sell, selling and/or importing gel wrist rest and mousepad  
3 products that have infringed and continue to infringe one or more claims of the '913 patent.

## 4 II. PARTIES

5 2. Prokop Labs, LLC, is a Washington limited liability company with its  
6 principal place of business located in Sammamish, Washington. Prokop Labs engineers and  
7 develops gel wrist rest technologies for use in conjunction with operating a computer  
8 keyboard or a computer mouse. Prokop Labs is the owner of the entire right, title, and interest  
9 in U.S. Patent No. 5,566,913 (Ex A).

10 3. Defendant Staples, Inc. is a Delaware corporation with its principal place of  
11 business in Framingham, Massachusetts. Staples is one of the largest office products  
12 companies in the United States. In addition to selling products to customers through mail  
13 order and on-line catalogs, Staples operates superstores in the state of Washington and  
14 elsewhere that sell Staples-branded gel wrist rests and mousepads that infringe the '913  
15 patent.

16 4. Defendant Staples the Office Superstore, LLC is a Delaware limited liability  
17 company with its principal place of business in Framingham, Massachusetts, and has a  
18 registered agent in the state of Washington.

19 5. Defendant Belkin, Inc. is a Delaware corporation with its principal place of  
20 business in Compton, California. Belkin sells infringing WaveRest® gel wrist rests and  
21 mousepads through its on-line catalog and through retail stores located in the state of  
22 Washington.

23 6. Defendant Belkin Logistics, Inc. is a Delaware corporation with its principal  
24 place of business in Compton, California, and has a registered agent in the state of  
25 Washington.

26  
COMPLAINT FOR PATENT INFRINGEMENT 2

1           7. Defendant S.P. Richards Company is a Georgia corporation with its principal  
2 place of business in Smyrna, Georgia. S.P. Richards is a leading wholesale supplier of  
3 business products. S.P. Richards sells infringing Compucessory™ branded gel wrist rests and  
4 mousepads into the state of Washington to retail sellers of computer accessories. S.P.  
5 Richards has a registered agent in the state of Washington.

6           8. Defendant Velo Enterprise Co., Ltd., ("Velo") is a corporation located in  
7 Taichung, Hsien, Taiwan. Upon information and belief, Velo manufactures, offers to sell,  
8 sells and imports into the United States infringing gel wrist rests and mousepads that are sold  
9 under the Compucessory™ brand name (defendant S.P. Richards' brand name for wrist rests  
10 and mouspads) in the state of Washington and elsewhere. Upon information and belief,  
11 defendant Velo also manufactures, offers to sell, and imports into the United States infringing  
12 *wrist rests and mousepads sold under the Staples and Belkin trade names.*

### 13                                   III. JURISDICTION AND VENUE

14           9. This Court has subject matter jurisdiction over this action pursuant to 28  
15 U.S.C. §§ 1331 and 1338. This Court can properly exercise personal jurisdiction over  
16 defendants because each transacts business within the state of Washington, sells or offers to  
17 sell infringing products within this state and/or contracts with others to sell or offer to sell  
18 infringing products in the state of Washington.

19           10. Venue is proper in this judicial district with respect to each defendant pursuant  
20 to 28 U.S.C. §§ 1391(b) and (c) and § 1400(b).

### 21                                   IV. PERTINENT FACTS

22           11. On October 22, 1996, the United States Patent and Trademark Office issued  
23 U.S. Patent No. 5,566,913, entitled "Wrist Rest Apparatus." The inventor of the '913 patent  
24 is David M. Prokop. Mr. Prokop assigned his entire right, title and interest in the '913 patent  
25 to Prokop Labs, LLC. Prokop Labs manufactures and sells Gel-eez® wrist rests and  
26 mousepads covered by the '913 patent. Prokop Labs has licensed use of the '913 patented

COMPLAINT FOR PATENT INFRINGEMENT 3

1 technology to a number of companies, including 3M Corporation, Fellowes Inc., Kensington  
2 Inc, ACCO Inc, CaseLogic Corp., Allsop Inc., and FourStar Co.

3 12. Defendants Staples, Inc. and Staples, the Office Superstore, LLC (collectively,  
4 "Staples") offer for sale and sell Staples-branded gel wrist rests and mousepads that infringe  
5 one of more claims of the '913 patent, including model numbers 13617, 13817, 13618,  
6 136519, 13687 and 13689. In addition, Staples offers for sale and sells gel wrist rest and  
7 mousepad products under the Belkin trade name that infringe one or more claims of the '913  
8 patent. Upon information and belief, Staple's infringing conduct is willful.

9 13. Defendants Belkin, Inc. and Belkin Logistics, Inc. (collectively, "Belkin")  
10 offer for sale and sell WaveRest® gel wrist rests and mousepads that infringe one or more  
11 claims of the '913 patent, including model numbers F8E244, F8E262 and F8E263. Belkin's  
12 infringing products are sold through retail stores in the state of Washington such as Staples,  
13 Radio Shack, OfficeMax, Office Depot, Best Buy, CompUSA and Circuit City. Upon  
14 information and belief, Belkin's infringing conduct is willful.

15 14. Defendant S.P. Richards offers for sale and sells Compucessory™ branded gel  
16 wrist rests and mouse pads (manufactured by defendant Velo Enterprises for S.P. Richards)  
17 that infringe one or more claims of the '913 patent, including model numbers CCS23815,  
18 CCS 23816, CCS 23817, CCS, 23819, CCS 45162, CCS 45163, CCS 55151, CCS 23718,  
19 CCS 55302 and CCS 55303. Upon information and belief, S.P. Richards' infringing conduct  
20 is willful.

21 15. Defendant Velo manufactures, offers to sell, sells and imports gel wrist rests  
22 and mousepads into the United States under the Compucessory™ brand name that infringe  
23 one or more claims of the '913 patent, including model numbers CCS 23815, CCS 23816,  
24 CCS 23817, CCS 23819, CCS 45162, CCS 45163, CCS 55151, CCS 23718, CCS 55302 and  
25 CCS 55303. Upon information and belief, Velo also manufactures and imports into the  
26

COMPLAINT FOR PATENT INFRINGEMENT 4

1 United States infringing products sold under the Belkin and Staple trade names. Upon  
2 information and belief, Velo's conduct—including actively inducing infringement—is willful.

3 **V. CLAIM FOR '913 PATENT INFRINGEMENT**

4 16. Plaintiff repeats and realleges each of the allegations contained in Paragraphs 1  
5 through 15 of this complaint as if fully set forth herein.

6 17. Each defendant has infringed and continues to willfully infringe one or more  
7 claims of the '913 patent both literally and/or under the doctrine of equivalents in violation of  
8 35 U.S.C. § 271(a) and/or (b).

9 18. Because of defendants' respective acts of infringement, plaintiff has suffered,  
10 is suffering, and will continue to suffer irreparable injury unless defendants are enjoined from  
11 continuing their unlawful infringing conduct.

12 19. As a result of each defendant's willful infringement of the '913 patent, plaintiff  
13 is entitled to an award of compensatory and exemplary damages in an amount to be  
14 determined at trial.

15 **VI. JURY TRIAL DEMAND**

16 Plaintiff hereby demands a trial by jury on all issues so triable.

17 **VII. PRAYER FOR RELIEF**

18 WHEREFORE, plaintiff Prokop Labs requests that a judgment be granted in its favor  
19 as follows:

20 A. That each defendant has infringed and continues to infringe one or more claims  
21 of the '913 patent pursuant to 35 U.S.C. § 271(a) and/or (b);

22 B. That each defendant and all related parties (listed in Fed.R.Civ.P. 65(d)) be  
23 permanently enjoined from further infringement of the '913 patent pursuant to 35 U.S.C.  
24 § 283;

25  
26 COMPLAINT FOR PATENT INFRINGEMENT 5

1 C. That each defendant be ordered to account for and pay plaintiff actual and  
2 exemplary damages to compensate plaintiff for its acts of willful infringement pursuant to 35  
3 U.S.C. § 284;

4 D. That an order be entered directing the seizure and destruction of infringing  
5 goods;

6 E. That this case be deemed exceptional and that plaintiff be awarded its costs its  
7 reasonable attorneys' fees pursuant to 35 U.S.C. § 285 and other applicable statutes;

8 F. That the Court grant such other and further relief as it may deem just and  
9 proper.

10 DATED: July 13, 2007

11 LANE POWELL PC

12  
13 By Paul Swanson  
14 Paul D. Swanson, WSBA No. 13656  
15 Steven B. Winters, WSBA No. 22393  
16 Attorneys for Plaintiff Prokop Labs, LLC  
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COMPLAINT FOR PATENT INFRINGEMENT 6

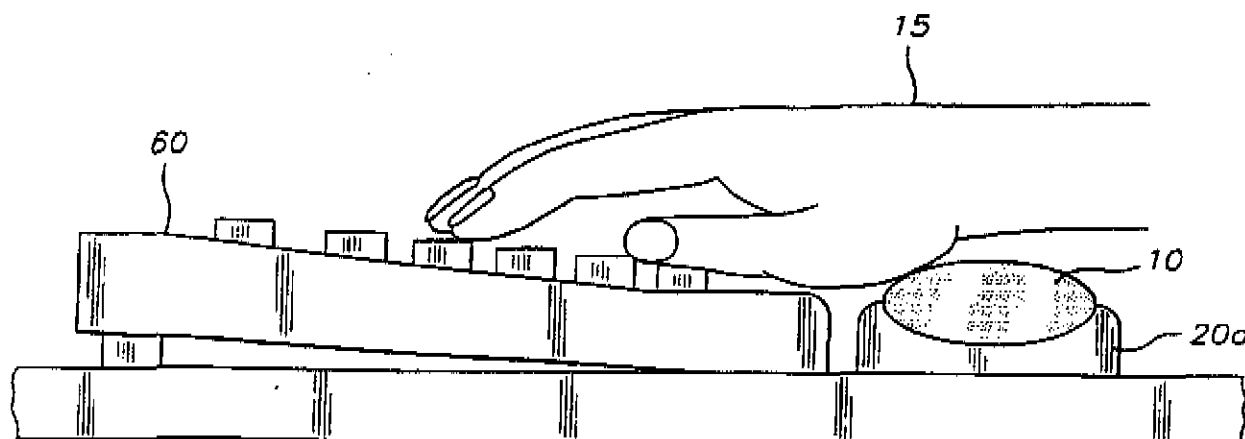
US005566913A

**United States Patent** [19]**Prokop**[11] **Patent Number:** **5,566,913**[45] **Date of Patent:** **Oct. 22, 1996**[54] **WRIST REST APPARATUS**[76] **Inventor:** **David M. Prokop**, 20713 NE. 38th St.,  
Redmond, Wash. 98053[21] **Appl. No.:** **455,386**[22] **Filed:** **May 31, 1995**[51] **Int. Cl.<sup>o</sup>** ..... **A47F 5/00**[52] **U.S. Cl.** ..... **248/118**[58] **Field of Search** ..... **248/118, 118.1,**  
**248/118.3, 118.5, 918; 400/715**[56] **References Cited****U.S. PATENT DOCUMENTS**

4,545,554	10/1985	Latino	248/118.1
5,125,606	6/1992	Cassano	248/918 X
5,158,255	10/1992	Fuller	248/118
5,163,646	11/1992	Engelhardt	248/118
5,356,099	10/1994	Sereboff	248/918 X
5,435,508	7/1995	Deutch	248/118
5,445,349	8/1995	Hart	248/118

*Primary Examiner*—Alvin C. Chin-Shue*Assistant Examiner*—Sarah L. Puroil*Attorney, Agent, or Firm*—Gregory W. Hauth[57] **ABSTRACT**

An improved wrist rest (10) is disclosed for reducing repetitive motion strain injuries on the wrists of a typist or computer keyboard operator. Wrist rest (10) is located in front of and parallel to a keyboard (60) or other typing device such that the wrist or wrists (15) of a user is (are) positioned directly over the wrist rest (10) while typing. Wrist rest (10) consists of an elastic envelope (40) filled with a gelatinous material (50) which provides cushioned support for a user's wrists while maintaining the wrist or wrists in a relatively straight position. In some embodiments the gelatinous material (50) can be chilled or heated to provide a source of cold or heat for a period of time. The gelatinous material (40) can be held in place by a base support means (20). In some embodiments wrist rest (10) can be grasped with both hands and squeezed, propelling the gelatinous material within the elastic envelope, thereby functioning as an exercise means for the hands and fingers of the hands.

**19 Claims, 4 Drawing Sheets****EXHIBIT A**

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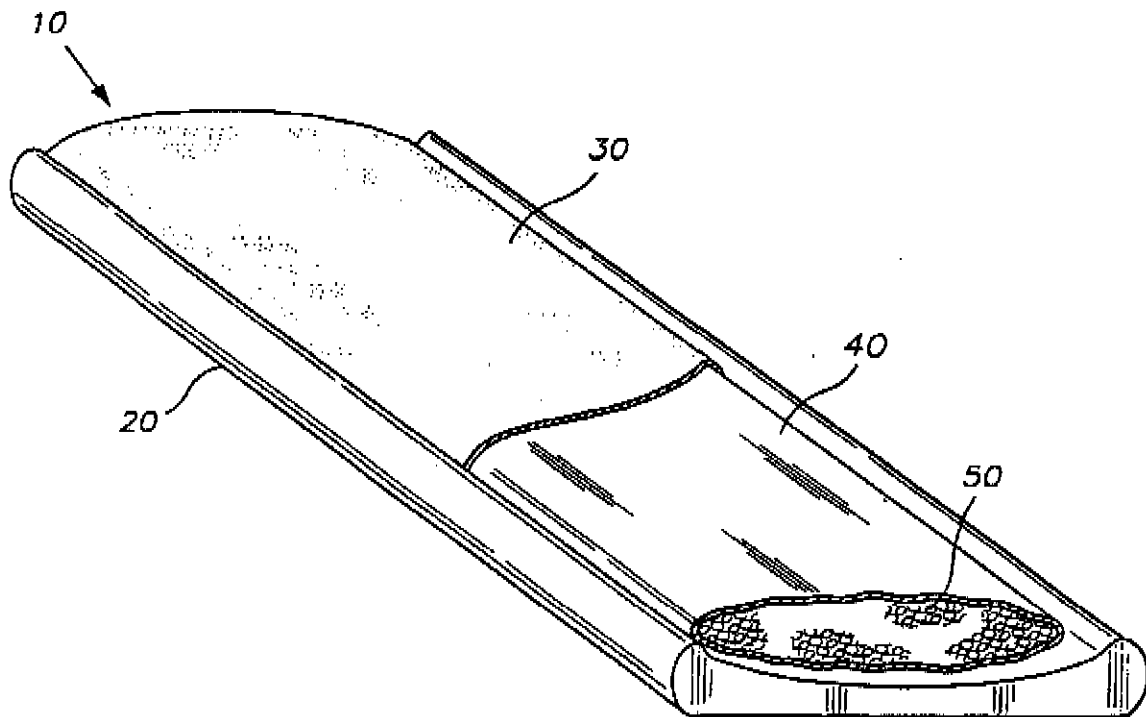


FIG. 1

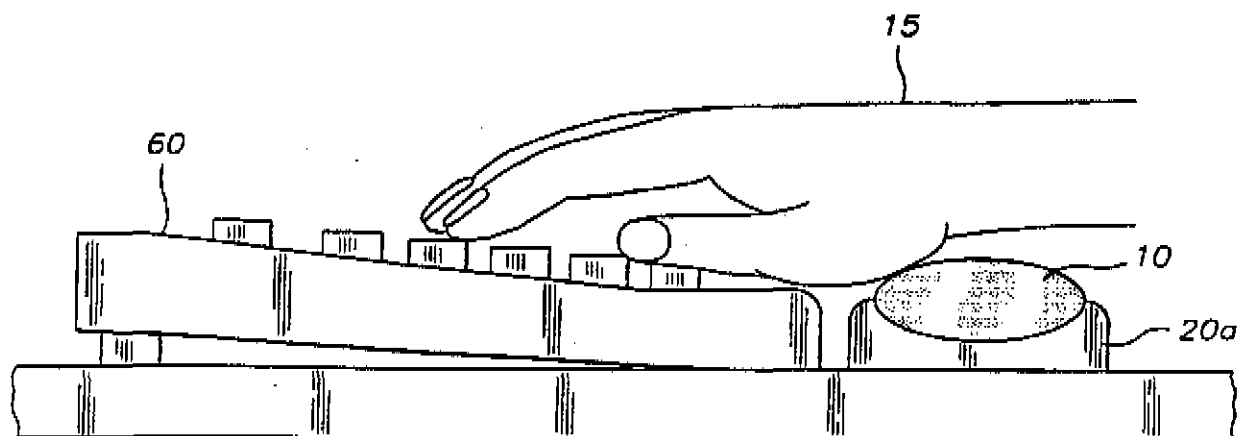


FIG. 2

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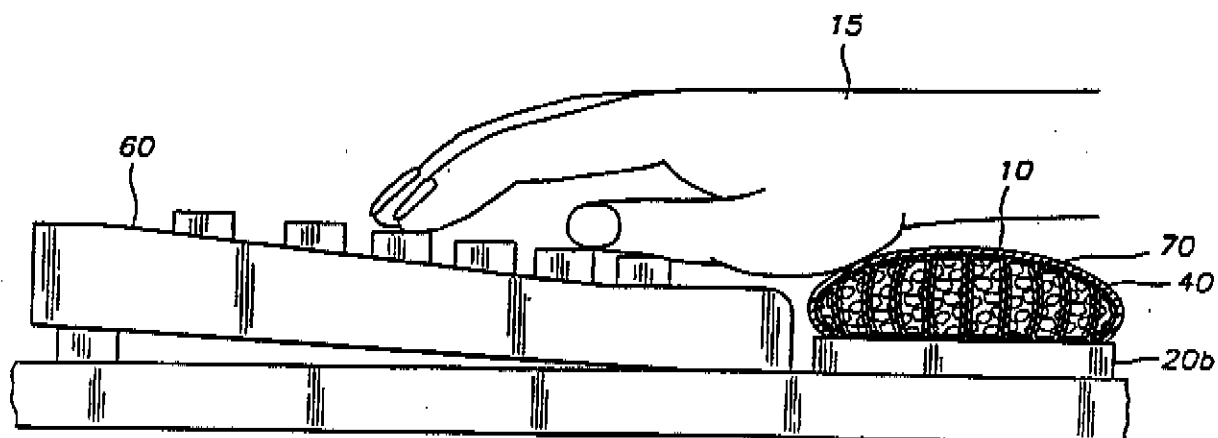


FIG. 3

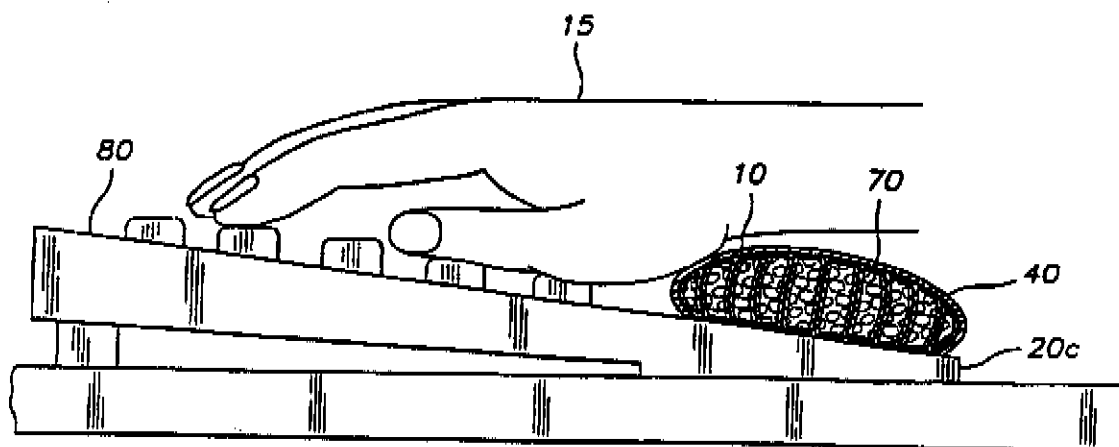


FIG. 4

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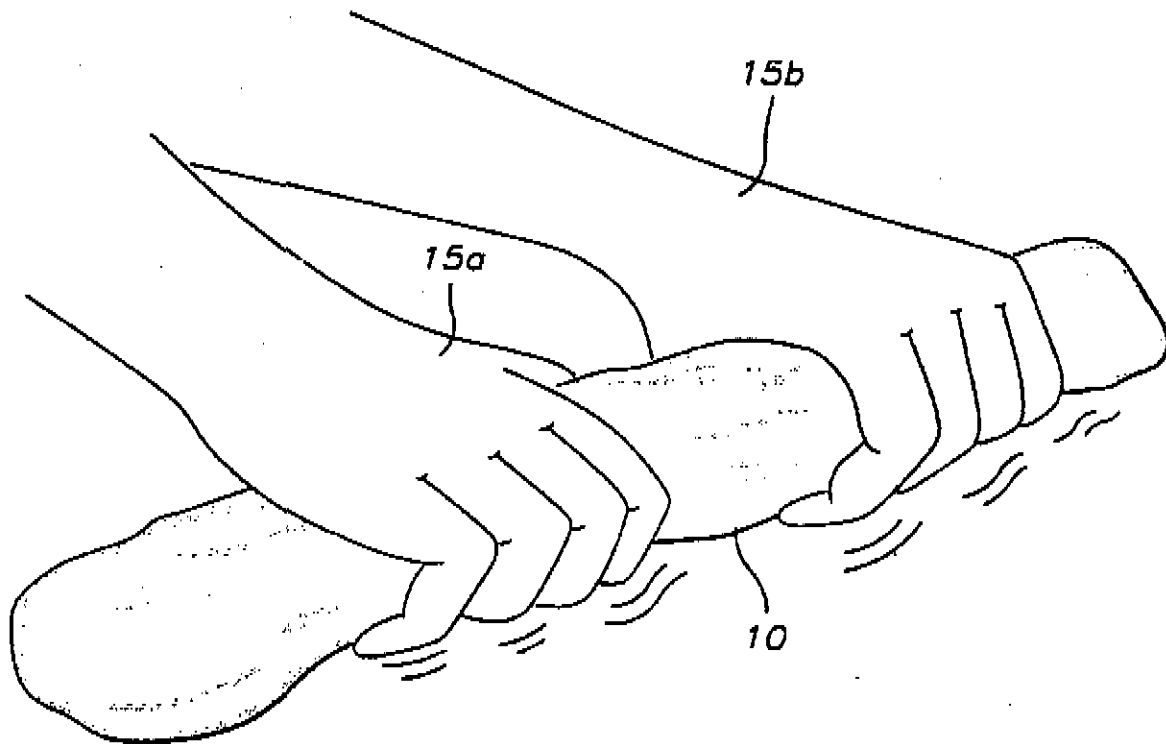


FIG. 5

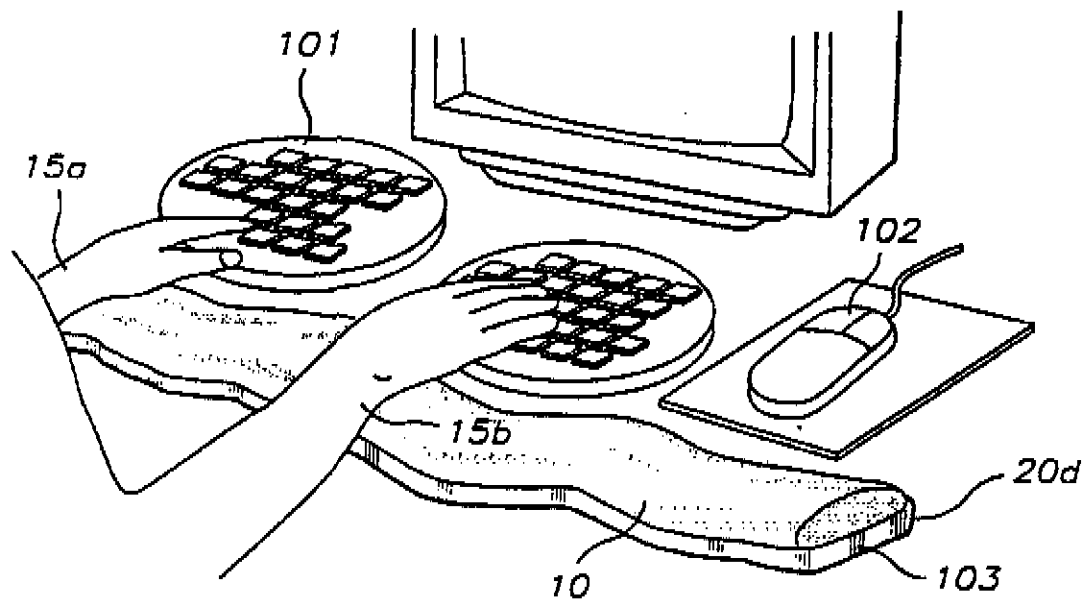


FIG. 6

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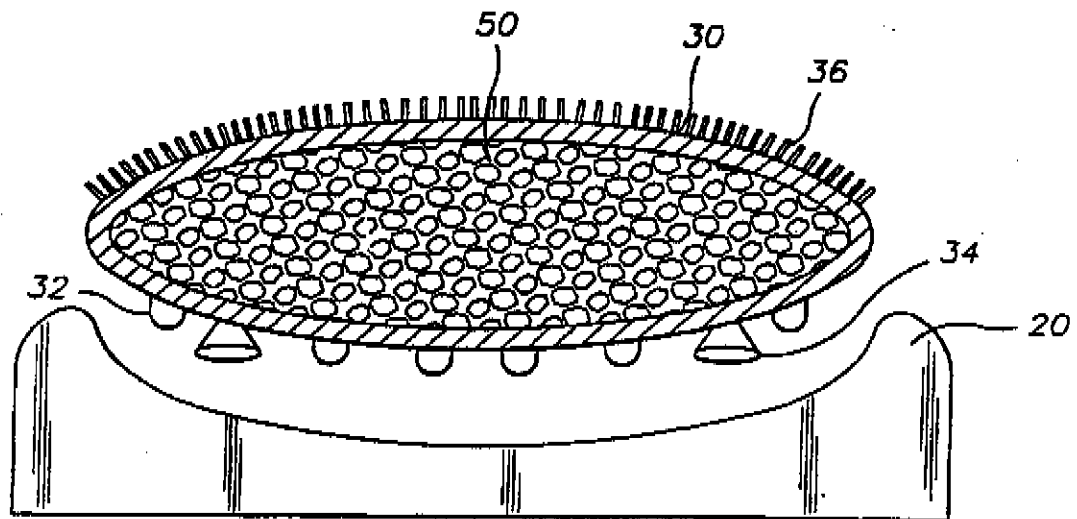


FIG. 7

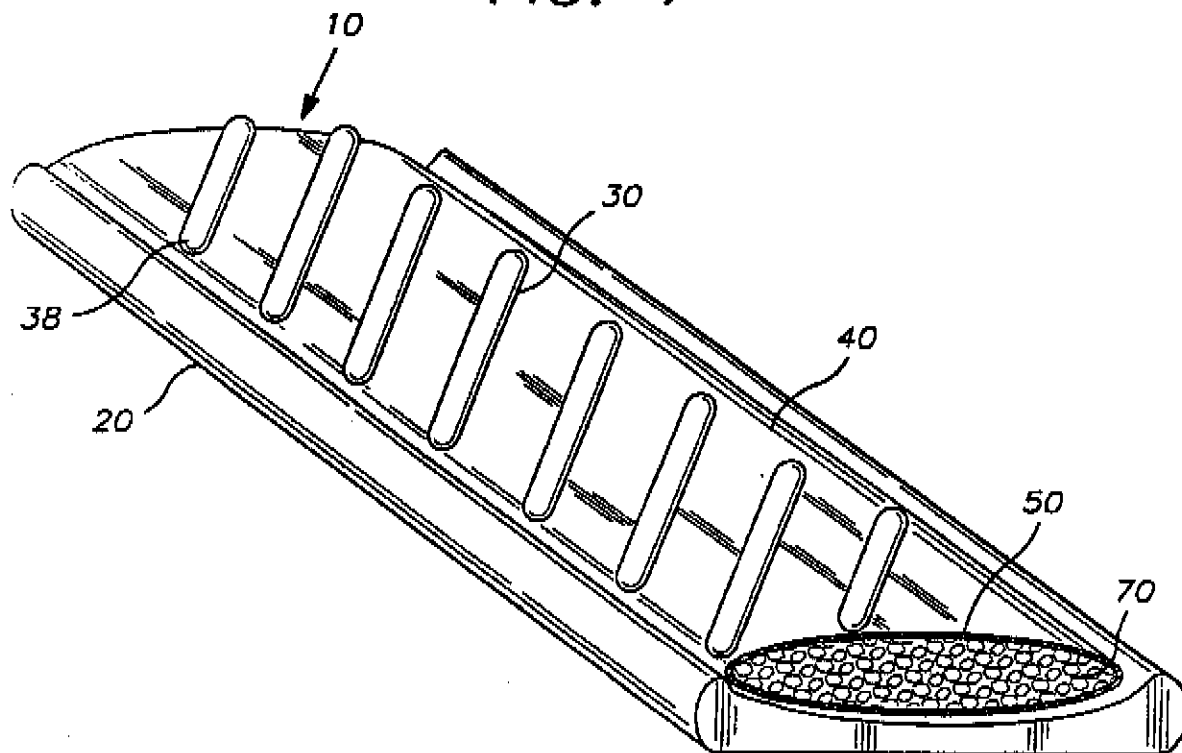


FIG. 8

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## WRIST REST APPARATUS

## BACKGROUND-FIELD OF THE INVENTION

The invention relates to the field of apparatus that reduce the severity of symptoms involving injuries to the hands and wrists as a result of performing repetitive hand and wrist motions, common while typing on a computer keyboard. The invention relates specifically to a wrist rest that supports the wrist, exercises the hands, and reduces inflammation to decrease the severity of symptoms associated with repetitive motion strain injuries like Carpal Tunnel Syndrome.

## BACKGROUND-DESCRIPTION OF PRIOR ART

The widespread use of personal computer keyboards has increased occurrences of repetitive motion stress injuries such as Carpal Tunnel Syndrome. The Carpal Tunnel is a sheath type membrane that passes over a U-shaped structure composed of bone and cartilage located in the wrist of a human that allows the median nerve, tendons and other tissues of the arm to pass over the wrist joint to the hand. In general terms, Carpal Tunnel Syndrome is an injury caused by the inflammation of tendons, nerves, and other tissue passing through the Carpal Tunnel. An increase in edema and inflammation of tissues in the wrist area accelerates this pathophysiological process. Progression of this typical repetitive motion injury can lead to permanent damage to nerves, tendons, joints, and muscles of wrists and hands. Symptoms can include chronic and acute pain in wrists and hands, loss of the range of motion of wrists and hands, loss of nerve function, atrophy of the muscles of the hands, and loss of functionality of the wrists and hands.

One element of repetitive motion stress injuries is wrist position while typing. Repetitive motion stress injuries may occur while typing on a keyboard continuously over a long period with the wrist in a bent position. Bending the wrist exerts increased pressure and strain on the tendons and nerve in the Carpal Tunnel. Repetitive motion causes edema, tissue stress and irritation. Prolonged irritation further leads to swelling of the tissues, which in turn leads to constriction of the median nerve inside the Carpal Tunnel. The inflammation and constriction continue until the median nerve is damaged. The median nerve exhibits damage to the typist usually as a tingling feeling or as a sharp pain in the wrist or hand. Carpal Tunnel Syndrome usually manifests itself as pain from the thumb and next three fingers, radiating to the elbow. Pain can range from minor itching and stiffness to acute periods of white-hot pain in the wrist and hand. Current strategies to relieve the symptoms include: positioning wrists in a neutral or straight position while typing; taking frequent rest periods from typing; exercising the hands and wrists; taking aspirin to reduce inflammation; injecting anti-inflammatory drugs; and performing surgery.

## DESCRIPTION OF PRIOR ART

Inventors have created several types of devices that follow the first strategy mentioned above to reduce the occurrence and severity of Carpal Tunnel Syndrome. For example, U.S. Pat. No. 5,356,099 to Sreboff describes a wrist rest that includes a liquid pack. The '099 patent presents a wrist rest system to reduce the: compression loading of the median nerve from either internal or external sources through interface of the user's appendage. Unfortunately, the '099 patent presumes that load forces applied to the wrist area compress the median nerve and therefore lead to Carpal Tunnel Syndrome. Current knowledge indicates

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instead that Carpal Tunnel Syndrome is a condition created by repetitive motion of the hands and wrists, which in turn causes inflammation of the wrist tissue leading to constriction of the median nerve. Thus, compression loads on the wrist area of the magnitude found, for example, during typing, do not directly develop into Carpal Tunnel Syndrome.

In addition, U.S. Pat. No. 5,234,186 to Powell (1993), U.S. Pat. No. 5,131,614 Garcia et al. (1993) and U.S. Pat. No. 5,209,452 to Goldberg (1993) have each proposed various embodiments of wrist rests to position the wrist correctly in an attempt to relieve or avoid Carpal Tunnel Syndrome. U.S. Pat. No. 5,158,255 (1992) to Fuller describes an invention useful as a wrist rest and as an exercise device. However, the device of the '255 patent uses for its core a solid, rigid material that cannot bend. Fuller's device therefore does not reduce inflammation of the wrist area, is not comfortable, and does not provide an effective means for exercise.

Much of the prior art suffers from a number of disadvantages regarding alleviation of Carpal Tunnel Syndrome. For example, the '186 patent to Powell, the '614 patent to Garcia et al., the '452 patent to Goldberg and the '255 patent to Fuller provide for an ergonomically correct wrist position as the only method to eliminate Carpal Tunnel Syndrome. Unfortunately, while wrist rests are in common use, Carpal Tunnel Syndrome remains a common injury among typists. The prior art over-simplifies the pathophysiological cause of Carpal Tunnel Syndrome as attributable solely to incorrect wrist position. Rather, any device must correct the underlying condition: inflammation of the wrist. To illustrate problems with the prior art, if a typist maintains good ergonomic position of his or her wrist and arms and types continuously for several hours, increased pressure inside the Carpal Tunnel will still develop. This may be due to the mechanical stress of repeatedly rubbing the flexor tendons against the Carpal Tunnel ligament. The repeated rubbing of the flexor tendons causes increased pressure and inflammation of the tendons and, if left untreated, will lead to Carpal Tunnel Syndrome. Correct ergonomic position of the wrist while typing does not eliminate inflammation of the wrist tissues. What is needed is a wrist rest that helps reduce pressure on the wrist and reduce or eliminate inflammation and which also provides a means of exercising the muscles of the hands and wrists. The invention disclosed herein helps reduce pressure and inflammation by providing a source of cold to a user's wrist while the user is typing or between periods of typing. A disadvantage of prior art wrist rests is that they are not designed to be chilled and used as an effective source of cold. Prior art wrist rests are manufactured from solid blocks of foam rubber, a material that reflects body heat back to the wrist area. Heating the wrist area can cause sweating of the wrists and hands, which increases fluid retention, edema, and therefore, pressure the wrist. The disadvantage of Prior art devices is that they tend to increase inflammation and so contribute to the progression of Carpal Tunnel Syndrome.

A further disadvantage of prior art wrist rests is that they do not readily deform to the shape of the user's wrist and therefore produce an uncomfortable pressure point between the wrist rest and the user's wrist. The materials for prior art wrist rests, such as solid pieces of neoprene or foam rubber blocks, also do not allow for curving or bending of the wrist rest. A disadvantage of such prior art wrist rests is they cannot bend or be shaped to fit irregularly shaped keyboards. Prior art wrist rests are therefore limited to effective use with only presently available straight keyboards. A further disadvantage is that a user cannot easily adjust or compress the

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thickness of prior art wrist rests. If the thickness of the wrist rest does not exactly match the thickness of the keyboard, only a relatively minimal contact area or pressure point will be established between the wrist rest and the user's wrist and accordingly the wrist will be maintained in an incorrectly bent positioned.

A further disadvantage of prior art wrist rests made of pieces of solid neoprene or foam rubber is that their shape does not anticipate or accommodate grasping by the hands for effective exercising of wrists and hands. The '255 patent discloses a device with a generally cylindrical core for providing a relatively rigid form that can be used as a means to exercise the wrists as well. However, the use of a core comprised of solid materials provides limited exercise capability, since it can be squeezed a relatively minimal degree. In addition, prior art devices do not provide dynamic resistance. For example, foam rubber material of prior art wrist rests are too stiff for a weak person to use as an exercise means. Conversely, foam rubber might be too soft for a strong person to use as an exercise means. The invention disclosed herein combines an elastic, gelatinous core to provide dynamic resistance for people having varying degrees of strength.

A further disadvantage of the prior art is that the fabric coverings on prior art wrist rests cannot be easily removed for effective cleaning or sterilization of germs.

Yet another disadvantage is that prior art wrist rests cannot be effectively adhered to the surface of a keyboard.

Still another disadvantage is prior art wrist rests are not designed to be easily integrated into a keyboard design or integrated into keyboard manufacturing processes. Prior art wrist rests use rigid materials such as foam rubber manufactured with specific length, width, and thickness for positioning the device on a table surface in front of the keyboard. A disadvantage of using rigid material for wrist rests is a new wrist rest must be manufactured to conform to the shape of a new curved keyboard. Prior art wrist rests manufactured with rigid materials become obsolete with each new keyboard design, and do not provide long term value to their users. Another disadvantage of prior art wrist rests manufactured from rigid materials is that a user cannot shape the wrist rest into a position that is suitable for the user's individual needs for comfort and support for the size and shape of the user's wrist and arm.

### OBJECTS AND ADVANTAGES

It is an object of the present wrist rest to relieve a user of the causes of Carpal Tunnel Syndrome by providing a wrist rest comprising an elastic envelope filled with a thermally conductive gelatinous material that can easily conform to the shape of a user's wrist, which is comfortable, and which eliminates pressure points associated with rigid wrist rests. It is another object of the present invention to provide a gelatinous device that a user can grasp with both hands and which will provide a means to exercise the wrist by propelling the gelatinous material inside the elastic envelope from one hand through the envelope to the other hand. The user can control the flow of the gelatinous material by holding the wrist rest firmly with one hand and squeezing with the other hand. By opening and closing the hands against resistance, hands and fingers receive a dynamic resilient quality over a large hand and finger range of motion. It is a further object of the invention to provide a thermally therapeutic device to reduce inflammation by providing a source of cold or a heat source (to provide a means to increase superficial blood flow to a user's skin) as desired. It is yet a further object to

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provide a wrist rest apparatus having a removable outer covering. It is a further object of the invention to provide a covering that can include a variety of surfaces such as rubber bumps or a slippery surface to enhance tactility (as an exercise device) or surface seating (as a wrist rest.) It is another object to provide a wrist rest with an ability to deform and bend into numerous positions to allow its use with bent or irregularly shaped keyboards. It is another object to provide a wrist rest which has internal support members for added strength and maintain form for use on an inclined surface.

### BRIEF DESCRIPTION OF DRAWINGS

FIG. 1 a perspective view of a particular embodiment of the present wrist rest, with the wrist rest held in a base support with a concave surface.

FIG. 2 a view of the wrist rest on a base support with a concave surface positioned relative to keyboard and a user's wrist.

FIG. 3 a view of the wrist rest on a flat base support positioned relative to keyboard and user's wrist.

FIG. 4 a view of the wrist rest positioned on an inclined, extended keyboard base.

FIG. 5 a perspective view of the wrist rest being squeezed by hands to provide a means of exercise.

FIG. 6 a perspective view of the wrist rest in an irregular bent shape positioned between the user and keyboard and computer mouse.

FIG. 7 cut-away view of the wrist rest with its adjoining base, the wrist rest having an outer cover employing rubber feet or suction cups embedded on the lower surface of the outer cover and "fingers" on the upper surface.

FIG. 8 a perspective view of an outer cover employing a ribbed upper surface for massaging the wrists of a user.

### REFERENCE NUMERALS IN DRAWINGS

10 wrist rest

15 (a), (b) user's wrist and hand

20 base support

20 (a) base support having a concave surface in communication with wrist rest

20 (b) base support having a flat surface in communication with wrist rest

20 (c) base support provided by extended, inclined surface of a keyboard with adhesive surface(s) and having a flat surface in communication with wrist rest.

20 (d) base support, having deformable support material embedded within

30 outer covering

32 rubber feet

34 suction cups

38 rubber fingers

38 rubber beads

40 elastic envelope

50 gelatinous material

60 keyboard

70 internal support members

80 (extended) keyboard with elongated base support

101 irregular shaped keyboard

102 computer mouse

103 embedded wire

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# DETAILED DESCRIPTION OF PREFERRED EMBODIMENT CONSTRUCTION

A typical embodiment of a wrist rest comprising the present invention is illustrated in FIG. 2 (end view) and FIG. 1 (perspective view). A wrist rest (10) has in its core resilient, deformable gelatinous material (50). Gelatinous material (50) consists of a solution of glycol-like material, which is highly deformable due to its liquid state and which will be discussed in greater detail below. Gelatinous material (50) is encased in an elastic envelope (40). Elastic envelope (40) provides an encasement for gelatinous material (50) which can stretch to accommodate the increase in volume associated with frozen gelatinous material as discussed below. Elastic envelope (40) consists of an elastic rubber material capable of withstanding impact from being dropped, stepped on, or squeezed, or compressed by the user while exercising, as described below. In the preferred embodiment, elastic envelope (40) consists of a 0.05 mm thick sheet of latex rubber. Envelope (40) contains and protects gelatinous material (50) from rupture and leakage. Illustrated in FIG. 4 (end view) is one embodiment intended for use with inclined keyboards, several flexible internal support members (70) divide the length of the wrist rest (10) into several adjacent tubular structures. Internal support members (70) allow the wrist rest (10) to maintain its relative shape while being used on an inclined surface. Elastic envelope (40) is further encased in an outer cover (30) and may optionally reside on a base (20) for support and orientation. Examples of gelatinous material (50) used in the present invention are: taught by U.S. Pat. No. 4,756,311 to Francis, Jr. (1988), by U.S. Pat. No. 3,874,504 to Verakes, and by U.S. Pat. No. 4,910,978 to Gordon. More specifically, gelatinous material (50) consists generally of the composition as described by Gordon in the '978 patent, consisting of 73-77 percent by weight water, 22-24 percent by weight glycol (freezing point suppressant), and 1-2 percent by weight starch. The deformability of the gel varies inversely with the amount of starch so that increased starch will decrease the deformability. "Deformability" as used herein generally refers to the speed and ability of the wrist rest to conform to the shape of a user's wrist. More particularly, "deformability" refers to the ease at which gelatinous material (50) in a liquid state conforms to the shape of a user's wrist (15) when the weight of a user's wrist (or the weight of both of user's wrists) (15) is applied to gelatinous material (50). Gelatinous material (50) used in the present invention having desirable deformable properties is available under the trade name Zero-Pak (TM) from Zero-Pak Products Ltd., 811 Cundy Ave, New Westminster, B.C. Canada V3M 5P6. By deforming readily to the shape of user's wrist (15) when the weight of wrist (15) is applied to wrist rest (10), the area of contact between user's wrist (15) and wrist rest (10) is increased thereby significantly reducing the amount or severity of pressure felt at any particular point along the base of user's wrist (15). The user does not experience an uncomfortable pressure point between wrist (15) and wrist rest (10).

Selecting gelatinous material (50) having thermally desirable qualities is an important component of the present invention. Gelatinous material may be selected for its ability to be chilled in a refrigerator, where the gelatinous material (50) will readily absorb cold and at normal room temperature will slowly radiate the cold over a period of time, nominally for about 30 minutes. Preferably, gelatinous material (50) will be chilled to a range from about -2 to about 16 degrees Centigrade and can be chilled below the freezing point of the material (50) at the preference of the user. This

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quality of radiating cold over a period of time is an important aspect of wrist rest (10). When an inflamed user's wrist (15) contacts a chilled wrist rest (15), inflammation is reduced in said wrist. Reducing inflammation contributes to successful treatment of repetitive strain injuries such as Carpal Tunnel Syndrome. Alternatively, in the preferred embodiment of wrist rest (10), gelatinous material (50) can be heated through immersion in hot water or through microwave oven radiation as taught by U.S. Pat. No. 4,756,311 to Francis, Jr. Preferably, gelatinous material (50) should be heated to a range from about 32 degrees to about 50 degrees Centigrade. Following convection or microwave radiation heating, wrist rest (10) can be used as described above to radiate heat to a user's wrist (15) over a period of time, nominally for about 30 minutes. A warm wrist rest provides a soothing remedy for pain of the hands and wrists associated with arthritic type diseases. A variety of gels may be selected for their ability to retain cold or heat, or for an ability to both be cooled and heated as the user may desire and as described above.

Outer cover (30) is preferably a material that enhances the feel of wrist rest (10), absorbs moisture, protects gelatinous material's core (50) and envelope (40) from puncture, and provides an aesthetic appeal for the present invention. In addition, outer cover (30) should allow a user's wrist to move against wrist rest (10) without generating static electricity, friction or discomfort. Examples of suitable material for outer cover (30) include nylon, cotton, wool, polyester or various fabric blends similar to those used in clothing fabrics. In particular, the specialized blend sold under the trade name "Spandex" (TM) available from the E.I. DuPont Company, New Jersey, is used for outer cover (30) in the present invention. The fabric should preferably be fastened around wrist rest (10) with pins, snaps, velcro, zipper, etc. or folded such that the fabric may be easily removed for cleaning. To improve the seating capability of the wrist rest, outer cover (30) may employ rubber feet (32), suction cups (34) or other frictional devices embedded within or upon the fabric on the lower surface of outer-cover (30), such frictional devices optionally communicating with an upper surface of base (20), keyboard (80) or other support surface, as shown in FIGS. 7 and 8. The use of such frictional devices improves the seating capability of the wrist rest on a support surface. In addition, to improve the comfort and feel of wrist rest (10), outer-cover (30) may optionally employ a variety of different surfaces to massage the wrist of a user. FIG. 7 shows one example whereby rubberized fingers (36), approximately 2 mm to 10 mm long, protrude from an upper surface of outer cover (30). FIG. 8 shows another embodiment, whereby outer cover (30) has rubber beads (38) on its upper surface in communication with the wrists of a user, to massage the user's wrists while the user is typing.

Wrist rest (10) is intended to be placed in front of and parallel to a leading edge of a computer keyboard or other typing device. The length of wrist rest (10) should run the length of keyboard (60), and outer cover (30) should have substantial height so the overall position of wrist rest (10) will contact a user's wrist or preferably, both of a user's wrists simultaneously. As stated above, wrist rest (10) may optionally reside on a base (20) for support and to properly orient wrist rest (10) relative to a user. The wrist rest embodiment as discussed above may be used wherein base (20) is available from an existing surface. In this embodiment, wrist rest (10) may be used, for example, on an extended keyboard (80) as shown in FIG. 4 wherein the extended surface of keyboard (80) serves as base (20) for wrist rest (10). FIG. 4 shows a wrist rest (10) on an inclined, extended keyboard (80). The internal support members (70)

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provide a means to hold, orient and position wrist rest (10) immediately and comfortably beneath a user's wrist. In this embodiment, base (20) (a) is made of a rigid material, such as molded plastic.

In other configurations, base (20) is provided for wrist rest (10) wherein base (20) may be used in conjunction with, or separately from, keyboard (60) or extended keyboard (80). FIG. 3 shows a flat base (20) (b) used separately from keyboard (60). In yet another embodiment, base (20) (d) comprises a soft flexible material such as foam rubber with a rigid and deformable support material (103) embedded within the flexible material such as 2 mm metal wire. A user may bend or shape base (20) (d) into various configurations, and base (20) (d) with the rigid, deformable support material (103) embedded therein will maintain such bent shape to hold the shape of base (20) (d) and wrist rest (10), as shown by FIG. 6. The wrist rest (10) is positioned in front of a keyboard (101) and/or mouse (102) in accordance with the typist's comfort.

In yet another embodiment, base (20) may have a thin (approximately 1 cm) adhesive surface that can be adhered to envelop (40) on the upper surface of base (20). On its bottom surface base (20) can be adhered to a support surface such as extended keyboard (80), foam pad, or table top. The adhesiveness may be provided by glue, velcro or the like.

#### OPERATION

In operation, FIG. 2 shows wrist rest (10) held in a concave base (20) (a) located in a typical position in front of and parallel to a leading edge of a computer keyboard (60) or other typing device. The overall position of wrist rest (10) should be oriented so a user's wrist or preferably, both of a user's wrists (15) will simultaneously contact wrist rest (10) while user is typing on a keyboard.

The highly liquid nature of the gelatinous core (50) of wrist rest (10) provides a soft and supple resilient feeling to a user placing their wrists on it. The invention may also provide a means of exercise by holding and squeezing wrist rest (10). FIG. 5 shows a typical position for wrist rest (10) when using the invention for exercising. Wrist rest (10) feels both firm and deformable to the touch. Since gelatinous material (50) may flow freely within elastic envelope (40), squeezing a first end of wrist rest (10) will propel gelatinous material (50) freely toward an opposite second end of wrist rest (10). In this way a user can alternately squeeze said first and second ends of wrist rest (10), thereby propelling said gelatinous material (50) within envelop (40) toward user's other hand. A gelatinous material (50) transmits a dynamic force from the squeezing hand which forces open the grasp of the opposing hand. Because the user's hands are opened and closed over a large range of motion, the motion provides an effective means of exercise.

These and other alternatives, derivatives and substitutions that may become apparent to those skilled in the art without departing from the spirit and principles of the matter disclosed and claimed herein are intended to be encompassed within the scope of the invention.

The embodiments of the invention in which an exclusive property or privilege is claimed are defined as follows:

1. A wrist rest and exercise apparatus, for a user's wrists, hands, and fingers comprising, in combination:

a thermally conductive gelatinous resilient means for providing a cushion for a user's wrist, said gelatinous resilient means having a generally deformable surface for providing a contact area shaped to said user's wrist; enveloping means for containing and protecting said gelatinous resilient means; covering means disposed

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about said gelatinous resilient means on which said user's wrists may be disposed.

2. The apparatus of claim 1 wherein said thermally conductive gelatinous resilient means may be chilled to less than zero degrees Centigrade.

3. The apparatus of claim 1 wherein said thermally conductive gelatinous resilient means may be heated from about 32 to about 50 degrees Centigrade.

4. The apparatus of claim 3 wherein said thermally conductive gelatinous resilient means may be heated using microwave radiation.

5. The apparatus of claim 1 in which said enveloping means is comprised of an elastic envelope.

6. The apparatus of claim 1 in which said covering means comprises a removable fabric.

7. The apparatus of claim 1 in which said covering means contains frictional means embedded within, and protruding throughout, a lower surface of said covering means in communication with a support surface.

8. The apparatus of claim 1 in which said covering means contains massaging means embedded within, and protruding throughout, an upper surface of said covering means in communication with said wrist of said user.

9. The apparatus of claim 1 wherein contained within said enveloping means are internal support means for providing support and shape to said wrist rest.

10. The apparatus of claim 1 further comprising a base support means.

11. The apparatus of claim 10 wherein said base support means, longitudinally, concavely and rigidly seats said wrist rest.

12. The apparatus of claim 10 wherein said base support means consists of flexible material such that it may be shaped by said user.

13. The apparatus of claim 10 wherein said base support means includes means for adhering said wrist rest to said base support means.

14. A method for relieving repetitive motion stress on the wrists of a user while using a device on a work station wherein using said device requires repetitive motion of the fingers and hands, said device including a keyboard and a mouse of a computer, said method including the steps:

positioning on a surface of said work station, and positioned parallel to a leading edge of said keyboard, a relief means with a length substantially equal to said leading edge, a height and a width, said relief means including a deformable thermally conductive gelatinous material having a generally cylindrical shape, a means for containing said gelatinous material, and a fabric covering wrapped around said means for containing said gelatinous material and wherein said height has a value selected to position said wrists on said relief means while using said device.

15. The method of claim 14 wherein said thermally conductive gelatinous material may be chilled below the freezing point of the gelatinous material.

16. The method of claim 14 wherein said thermally conductive gelatinous material may be heated from about 32 to about 50 degrees Centigrade.

17. The method of claim 14 wherein said thermally conductive gelatinous material may be heated using microwave radiation.

18. The method of claim 14 wherein said method further includes manipulation of relief means by a user for exercising the hand and the fingers of the hand.

19. The method of claim 14 wherein said relief means includes a means for providing internal support and shape for said wrist rest.

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